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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,673	12/11/2003	Robert L. Karlinsey JR.	29920-73871	9010

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EXAMINER	
TANG, MINH NHUT	

ART UNIT	PAPER NUMBER
2829	

DATE MAILED: 06/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/733,673	KARLINSEY ET AL.	
	Examiner	Art Unit	
	Minh N. Tang	2829	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-12,15-19,21-25,28-30,32-34 and 37-42* is/are rejected.

7)☒ Claim(s) *4,13,14,20,26,27,31,35 and 36* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/10/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on September 10, 2004 is considered by the examiner.

Specification

2. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

3. Claims 31 and 42 are objected to because of the following informalities:

a/ in claim 31, there is insufficient antecedent basis for the limitation "the outer surface" (line 3) which referred to "an outer surface" recited in claim 30, therefore claims 31 should depend upon claim 30.

b/ in claim 42, line 2, "the resistor" should be -- the resistors --.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 16 and 28 are rejected under 35 U.S.C. 102(e) as being anticipated by Haji-Sheikh et al. (Pub. No. US 2005/0024076 A1).

As to claim 1, Haji-Sheikh et al. discloses, in Fig. 6, a test cell for solid-state specimens, comprising a housing (i.e., a portion around the elements 100, 615, 620, hereinafter, housing), a pair of electrodes (615, 620) positioned in the housing (housing), and a heating element (640) coupled to the housing (housing).

As to claim 16, Haji-Sheikh et al. discloses, in Fig. 6, a test system for solid-state specimens, comprising a test cell having a first electrode (615), a second electrode (620), and a heating element (640) operable to heat a test specimen (100) positioned between the first electrode (615) and the second electrode (620).

As to claim 28, Haji-Sheikh et al. discloses in Fig. 6, an impedance meter (610) electrically coupled to the first electrode (615) and the second electrode (620).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 2-3, 5-12, 15, 17-19, 21-25, 29-30, 32-34, and 37-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haji-Sheikh et al. (Pub. No. US 2005/0024076 A1) in view of Petersen (U.S.P. 4,502,531).

As to claims 2-3, 18-19 and 30, Haji-Sheikh et al. discloses in Fig. 6, the housing (housing) has an outer surface, and a cavity, the pair of electrodes (615, 620) is positioned in the cavity. Haji-Sheikh et al. does not show the heating element is secured to the outer surface. Petersen discloses in Figs. 1 and 2, a high pressure furnace comprising a housing (35) having an outer surface (i.e., outer surface of side wall 39 and bottom wall 37, hereinafter 37, 39) and a heating element (5, 11) being secured to the outer surface (37, 39). It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the apparatus of Haji-Sheikh et al. by providing the heating element (5, 11) securing to the outer surface (37, 39) of the housing (35) as taught by Petersen in order to contact selected area portions of the housing (35) and thereby provide direct-contact thermal conduction of heat into the housing (35).

As to claim 5, Haji-Sheikh et al. in view of Petersen discloses the heating element (5, 11) comprises a resistor.

As to claim 6, Haji-Sheikh et al. in view of Petersen discloses the resistor (5, 11) is secured to an outer surface (37, 39) of the housing (35).

As to claims 7 and 17, Haji-Sheikh et al. in view of Petersen discloses the resistor (5, 11) is coupled to a current source (47), and the resistor (5, 11) is configured to generate heat which is transferred to the housing (35) upon application of current from the current source (47).

As to claim 8, Haji-Sheikh et al. in view of Petersen discloses the heating element (5, 11) comprises a plurality of resistors.

As to claims 9 and 23, Haji-Sheikh et al. in view of Petersen discloses each of the plurality of resistors (5, 11) is secured to an outer surface (37, 39) of the housing (35).

As to claims 10, 22 and 32, Haji-Sheikh et al. in view of Petersen discloses each of the plurality of the resistors (5, 11) is coupled to a current source (47), and configured to generate heat which is transferred to the housing (35) upon application of current from the current source (47).

As to claims 11, 24 and 33, Haji-Sheikh et al. discloses in Fig. 6 a test specimen (100) positioned between the pair of electrodes (615, 620). Haji-Sheikh et al. does not disclose a temperature sensor positioned to determine the temperature of a test specimen (100). Petersen discloses, in Figs 1 and 2, a temperature sensor (15) positioned to determine the temperature of the housing (35). It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the apparatus of Haji-Sheikh et al. by providing the temperature sensor (15) as taught by Petersen so that it would be used to determine the temperature of the housing (35) and hence the temperature of the test specimen (100).

As to claims 12, 25 and 34, Haji-Sheikh et al. in view of Petersen discloses the temperature sensor (15) comprises a platinum resistor.

As to claims 15 and 37, Haji-Sheikh et al. in view of Petersen discloses the housing (35) is metallic.

As to claim 21, Haji-Sheikh et al. in view of Petersen discloses the current source (47) comprises an R/G bridge.

As to claim 29, Haji-Sheikh et al. discloses, in Fig. 6, a test cell for solid-state specimen, comprising a housing, and a heating element (640) coupled to the housing (housing). Haji-Sheikh et al. does not disclose the heating element comprising a plurality of resistors. Petersen discloses, in Figs. 1 and 2, a housing (35), and a heating element (5, 11) comprising a plurality of resistors coupled to the housing (35). It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the apparatus of Haji-Sheikh et al. by providing the heating element (5, 11) comprising a plurality of resistors as taught by Petersen in order to contact selected area portions of the housing (35) and thereby provide direct-contact thermal conduction of heat into the housing (35).

As to claim 38, Haji-Sheikh et al. discloses, in Fig. 6, a method of testing a solid-state specimen (100), the method comprising the steps of positioning the solid-state specimen (100) in a housing (housing) of a test cell, and applying an electrical current to a heating element (640) secured to the housing (housing) to heat the housing (housing). Haji-Sheikh et al. does not disclose the heating element having a number of resistors. Petersen discloses, in Figs. 1 and 2, a housing (35) has an outer surface (37, 39), and

a heating element (5, 11) having a plurality of resistors secured to the housing (35) to heat the housing (35). It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the apparatus of Haji-Sheikh et al. by providing the heating element (5, 11) comprising a plurality of resistors as taught by Petersen in order to contact selected area portions of the housing (35) and thereby provide direct-contact thermal conduction of heat into the housing (35).

As to claim 39, Haji-Sheikh et al. discloses in Fig. 6, positioning the solid-state specimen (100) between a first electrode (615) and a second electrode (620).

As to claim 40, Haji-Sheikh et al. discloses in Fig. 6, coupling the first electrode (615) and the second electrode (620) to an impedance meter (610).

As to claim 41, Haji-Sheikh et al. discloses all the limitations recited in the claim except for sensing the temperature of the test specimen (100) with a temperature sensor. Petersen discloses, in Figs 1 and 2, a temperature sensor (15) positioned to determine the temperature of the housing (35). It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the apparatus of Haji-Sheikh et al. by providing the temperature sensor (15) as taught by Petersen so that it would be used to determine the temperature of the housing (35) and hence the temperature of the test specimen (100).

As to claim 42, Haji-Sheikh et al. in view of Petersen discloses adjusting the electrical current applied to the resistors (5, 11) based on output from the temperature sensor (15).

Allowable Subject Matter

9. Claims 4, 13-14, 20, 26-27, 31, and 35-36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 4, 20 and 31 recite, inter alia, the housing is cylindrical in shape with a flat(s) defined in the outer surface thereof, and the heating element/resistor(s) is/are secured to the flat(s).

Claims 13-14, 26-27, and 35-36 recite, inter alia, a cap secured to an open end of the housing, and a cold-sink member secured to the cap.

The art of record does not disclose the above limitations, nor would it be obvious to modify the art of record so as to include the above limitations.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Leonard et al.	4,763,529	In-Situ Beta Alumina Stress Simulator.
Rignall	4,881,591	Oven For The Burn-In Of Integrated Circuits.
Mallory et al.	5,260,668	Semiconductor Surface Resistivity Probe With Semiconductor Temperature Control.
Sill et al.	6,577,113	Apparatus And Method For Measuring Substrate Biasing During Plasma

Processing Of A Substrate.

Communication

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh N. Tang whose telephone number is (571) 272-1971. The examiner can normally be reached on M-F (7:00-3:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor R. Ramirez can be reached on (571) 272-2034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Minh Tang

MINH NHUT TANG
PRIMARY EXAMINER

5/31/05